

List of Documents

PART 1. TECHNICAL DESCRIPTION		
	Preamble	
1.1	Equipment technical description including optional Tank Stripping	
1.2	Equipment data sheets	
1.3	Components not coverd by Equipment data sheets	
1.4	Control Philosophy	
1.5	Scaling	
1.6	Hazardous Area Considerations	
1.7	Impact of BWMS on Crew and Vessel	
Annex 1	Monitoring System Logic	
Annex 2	Monitoring System HMI	
Annex 3	Installation Checklist	
Annex 4	Test Equipment Calibration Details	
Annex 5	Functional Test Procedures	
Annex 6	On Board Survey Procedures	
Annex 7	System Reliability Data	
Annex 8	Report from Flow Concept on the efficacy of the Cathelco UV reactor.	
Annex 9	Technical specifications of ballast pump installed on MV Eddystone	
Annex 10	Filter Comparison Tests_rev3 Final	
PART 2. OPERATIONS MANUALS		
	Preamble	
2.1	Pre Start Up Procedure	
2.2	Normal Operational Procedures	
2.3	Discharge Procedure for Untreated Water	
2.4	Alarm and Shutdown Procedures	
2.5	Emergency Procedure	
2.6	Preventative Maintenance	
2.7	Planned Maintenance Routines	



2.8	Major Maintenance
2.9	Maintenance Record Instructions
2.10	Recommended Electrical Fault-Finding Procedure
2.11	Manual of Filter RFCA
2.12	Manual of Filter ACB
2.13	Manual of UV components
2.14	Manual of UVT sensor
2.15	Manual of CIP system
2.16	Site Receiving / Handling Instructions
2.17	Storage and Preservation Requirements
2.18	Utility Requirements
2.19	Erection and Assembly Procedures
2.20	Pre-Commissioning Preparation and Cleaning
Annex 1	Ballast Water Management Plan – M/V Eddystone
PART 3. DRAWINGS AND CFD	
	Preamble
3.1	Typical P&ID
3.2	Typical Equipment Footprint
3.3	Typical Weight and COG Details
3.4	General Arrangement drawings
3.5	Detailed Drawings
3.6	Equipment Sectional Drawings
3.7	Interface and Connection Drawings
3.8	Electrical schematics
3.9	Electrical Interconnection Diagrams
3.10	Typical Power and Grounding Arrangement
Annex 1	CFD of UV reactor at 50m3 flow
Annex 2	CFD of UV reactor at 100m3 flow
Annex 3	CFD of UV reactor at 150m3 flow
Annex 4	CFD of UV reactor at 200m3 flow
Annex 5	CFD of manifold arrangement 160 - 400 m ³ /h
Annex 6	CFD of manifold arrangement 240 - 600 m ³ /h



	List of Documents	
Annex 7	CFD of manifold arrangement 320 - 800 m³/h	
Annex 8	CFD of manifold arrangement 400 - 1000 m³/h	
Annex 9	CFD of manifold arrangement 480 - 1200 m³/h	
Scaling Drawing	Folder Containing Drawings for Scaling Approvals	
PART 4. TYPE APPROVAL TESTING		
	Preamble	
	Type Approval Certificate-BSH_Cathelco	
4.1	General system description	
4.2	Scaling Summary / Table only	
4.3	Sampling facilities	
4.4	Summary of land-based tests	
4.5	Summary of shipboard tests	
4.6	Ballast Water Management	
Annex 1a	Nioz QAPP	
Annex 1b	Nioz report land based tests	
Annex 1c	NIOZ QM Plan Rev 01	
Annex 1d	NIOZ Report Land Based Tests	
Annex 1e	LR Confirmation NIOZ BaWa Test Facility	
Annex 2a	MEA test protocol and QAPP	
Annex 2b	Mea Report on shipboard tests	
Annex 2c	MEA ISO 9001 Cert	
Annex 3	LR Plan Approval	
Annex 4	Chemical Report	
Annex 5	Report on environmental testing of an Alutek water jet system (Cathelco)	
Annex 6a	Report on environmental testing - UV Technik Lamps	
Annex 6b	Certificate 3.1 according EN 10 204 for quartz glass tubes	
Annex 7	Report on environmental testing - Test report Cabinet -FSU 202-GCU	
Annex 8	RFCA Filter Control Environmental Testing Report rev 01	
PART 5. TYPE APPROVAL CERTIFICATES		
	Type Approval Certificate-BSH_Cathelco	
	Type Approval Certificate-BSH_Cathelco_Scale_Units	